

REMARKS

This Preliminary Amendment is being filed concurrently with a Request for Continued Examination.

The Applicants wish to express their gratitude for the courtesies extended by the Examiner in the Interview conducted on July 14, 2004. The foregoing amendments and following remarks are consistent with the discussions in the Interview.

The Applicants have amended pending claim 1 and withdrawn claim 7 to clarify the arrangement of the present invention's deflector plate. Claim 1 has also been amended in a manner which renders the pending claim objection moot. Claim 2 has been canceled, without prejudice to the subject matter contained therein, and claims 3-4 have been amended to depend from claim 1. Claims 1 and 3-6 thus remain pending in the present application, with claims 7-9 standing withdrawn.

Response to Rejections: Claims 1-3 and 5-6 stand rejected under 35 U.S.C. § 102(b) as anticipated by EPO patent document no. EP 0 555 746 ("EP 0 555 746"). Claim 4 stands rejected under 35 U.S.C. § 103(a) as unpatentable over this reference. The Applicants respectfully traverse these rejections on the grounds that the EP 0 555 746 reference fails to disclose or suggest all the features of the present invention recited in claims 1 and 3-6, as amended.

As noted in the Amendment filed January 21, 2004, the Applicants have developed a simplified, lower cost, exhaust gas cleaning system, in which a reducer is injected into an exhaust system onto a heat source in the form of a

deflector plate arranged substantially parallel to the exhaust flow. With the plate arranged so that the reducer directly impinges on the broad face of the deflector plate (not, as suggested in the April 2, 2004 Final Office Action, onto an edge of a plate), the Applicants found sufficient vaporization of the reducer could be achieved with a considerably simpler, lower cost structure than previously known. Application at 2:28-31.

The EP 0 555 746 reference does not disclose or suggest the improved purification system recited in the amended claims. In response to the Applicants' January 21, 2004 Remarks, the Examiner maintains that EP 0 555 746 teaches a vaporizer 34 into which reducer is sprayed, and that this constitutes impinging reducer onto the "front surface" of the vaporizer at a substantially perpendicular angle. The Examiner clarified in the July 24, 2004 Interview that the "front surface" is the end edges of the element 34 plates. The Examiner further maintains that because the element 34 internal plates are corrugated, and that the incoming reducer would strike plate corrugations at a "substantially perpendicular" angle. April 22, 2004 Final Office Action at 4.

The Applicants respectfully traverse the stated grounds of the rejection. The EP 0 555 746 reference's element 34 does not teach a device in which a reducer "impinges" a heat source at a "substantially perpendicular" angle. Instead, the EP 0 555 746 reducer is directed into an essentially hollow honeycomb structure, and flows *parallel* to each of the element 34 plates. At most, only the smallest fraction of the reducer even contacts the honeycomb structure as a few reducer atoms are displaced sideways into an adjacent flow

channel by the “knife-edged” ends of the element 34 plates. The Applicants respectfully submit that the fact that a *de minimus* fraction of the reducer atoms may strike a knife-edge on the element 34 plates does not justify the assertion that the reducer as a whole is impacting the element 34 plates “at an angle substantially perpendicular” to the plates.

As to the argument regarding reducer impingement on plate corrugations somewhere down within element 34, the Applicants first note such corrugations are not illustrated in the EP 0 555 746 reference, as the plates shown in Fig. 2 are flat (*i.e.*, no suggestion of corrugation indentations illustrated). Further, even if there were such a disclosure, the bulk of the reducer would be flowing axially through the element 34 channels with virtually no contact with the plates. Accordingly, any deflection of the bulk flow from side to side by the corrugations as the reducer passes through each channel would also be *de minimus*, and insufficient to justify a claim that the reducer “impinges” the corrugations “at an angle substantially perpendicular” to the element 34 plates. Such parallel channel flow does not disclose or suggest the present invention’s simple, highly effective enhanced reducer vaporization resulting from perpendicular impingement of reducer on a broad, coherent heated surface.

Notwithstanding the Applicant’s traverse of the pending rejections based on EP 0 555 746, in order to advance the prosecution of the present Application, the Applicants have amended the claims to expressly recite that the heat source is a deflector plate, that this plate is “oriented with its broad faces parallel to a direction of flow of the exhaust gas,” and that “the reducing agent is directed

under pressure at a substantially perpendicular angle onto one of the broad faces of the deflector plate."

Thus, there Applicants respectfully submit that neither the knife-edged ends of a plate, nor the small ridges of corrugations in a plate (such as those asserted to be present in EP 0 555 746 element 34), could be misinterpreted by those of ordinary skill in the art as the recited "broad faces" of the claimed deflector plate.

In view of the foregoing, the Applicants respectfully request reconsideration and withdrawal of the pending § 102(b) and § 103(a) rejections of claims 1, 3-6.

CONCLUSION

The Applicants respectfully submit that amended claims 1 and 3-6 are now in condition for allowance. Early and favorable consideration, and issuance of a Notice of Allowance for these claims is respectfully requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit

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Respectfully submitted,

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